GOOD-ARK

# BZX55 ...

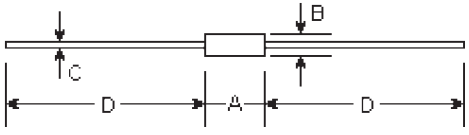
## SILICON PLANAR ZENER DIODES

## Features

**Silicon Planar Zener Diodes**

The Zener voltages are graded according to the international E 24 standard. Other voltage tolerances and higher Zener voltages on request.

DO-35




| DIMENSIONS | | | | | |
|---|---|---|---|---|---|
| DIM | inches | | mm | | Note |
| | Min. | Max. | Min. | Max. | |
| A | - | 0.154 | - | 3.9 | |
| B | - | 0.075 | - | 1.9 | ϕ |
| C | - | 0.020 | - | 0.52 | ϕ |
| D | 1.083 | - | 27.50 | - | |

## Absolute Maximum Ratings ($T_a$=25℃)

| | Symbols | Values | Units |
|---|---|---|---|
| Zener current see Table "Characteristics" | | | |
| Power dissipation at $T_{amb}$=25℃ | $P_{tot}$ | 500 [1] | mW |
| Junction temperature | $T_j$ | 175 | ℃ |
| Storage temperature range | $T_S$ | -55 to +175 | ℃ |

**Note:**

(1) Valid provided that leads are kept at ambient temperature at a distance of 8 mm from case.

## Characteristics at $T_{amb}$=25℃

| | Symbols | Min. | Typ. | Max. | Units |
|---|---|---|---|---|---|
| Thermal resistance junction to ambient Air | $R_{thA}$ | - | - | 0.3 [1] | K/mW |
| Forward voltage at $I_F$=100mA | $V_F$ | - | - | 1.0 | V |

**Note:**

(1) Valid provided that leads are kept at ambient temperature at a distance of 8 mm from case.

| Type | Zener voltage range 1) | | | Dynamic resistance | | | Reverse leakage current | | | Temp. coefficient of Zener voltage |
|---|---|---|---|---|---|---|---|---|---|---|
| | $V_{znom}$ | $I_{ZT}$ for $V_{ZT}$ 2) | | $r_{zjT}$ and $r_{zjk}$ at $I_{ZK}$ | | | $I_R$ and $I_R$ 2) at $V_R$ | | | $TK_{VZ}$ |
| | V | mA | V | Ω | Ω | mA | uA | uA | V | %/K |
| BZX55/C 0V8 | 0.8 | 5 | 0.73 ... 0.83 | <8 | <50 | 1 | - | - | - | -0.26 ... -0.23 |
| BZX55/C 2V0 | 2.0 | 5 | 1.9 ... 2.1 | <85 | <600 | 1 | <100 | <200 | 1 | -0.09 ... -0.06 |
| BZX55/C 2V4 | 2.4 | 5 | 2.28 ... 2.56 | <85 | <600 | 1 | <50 | <100 | 1 | -0.09 ... -0.06 |
| BZX55/C 2V7 | 2.7 | 5 | 2.5 ... 2.9 | <85 | <600 | 1 | <10 | <50 | 1 | -0.09 ... -0.06 |
| BZX55/C 3V0 | 3.0 | 5 | 2.8 ... 3.2 | <85 | <600 | 1 | <4 | <40 | 1 | -0.08 ... -0.05 |
| BZX55/C 3V3 | 3.3 | 5 | 3.1 ... 3.5 | <85 | <600 | 1 | <2 | <40 | 1 | -0.08 ... -0.05 |
| BZX55/C 3V6 | 3.6 | 5 | 3.4 ... 3.8 | <85 | <600 | 1 | <2 | <40 | 1 | -0.08 ... -0.05 |
| BZX55/C 3V9 | 3.9 | 5 | 3.7 ... 4.1 | <85 | <600 | 1 | <2 | <40 | 1 | -0.08 ... -0.05 |
| BZX55/C 4V3 | 4.3 | 5 | 4.0 ... 4.6 | <75 | <600 | 1 | <1 | <20 | 1 | -0.06 ... -0.03 |
| BZX55/C 4V7 | 4.7 | 5 | 4.4 ... 5.0 | <60 | <600 | 1 | <0.5 | <10 | 1 | -0.05 ... +0.02 |
| BZX55/C 5V1 | 5.1 | 5 | 4.8 ... 5.4 | <35 | <550 | 1 | <0.1 | <2 | 1 | -0.02 ... +0.02 |
| BZX55/C 5V6 | 5.6 | 5 | 5.2 ... 6.0 | <25 | <450 | 1 | <0.1 | <2 | 1 | -0.05 ... +0.05 |
| BZX55/C 6V2 | 6.2 | 5 | 5.8 ... 6.6 | <10 | <200 | 1 | <0.1 | <2 | 2 | 0.03 ... 0.06 |
| BZX55/C 6V8 | 6.8 | 5 | 6.4 ... 7.2 | <8 | <150 | 1 | <0.1 | <2 | 3 | 0.03 ... 0.07 |
| BZX55/C 7V5 | 7.5 | 5 | 7.0 ... 7.9 | <7 | <50 | 1 | <0.1 | <2 | 5 | 0.03 ... 0.07 |
| BZX55/C 8V2 | 8.2 | 5 | 7.7 ... 8.7 | <7 | <50 | 1 | <0.1 | <2 | 6.2 | 0.03 ... 0.08 |
| BZX55/C 9V1 | 9.1 | 5 | 8.5 ... 9.6 | <10 | <50 | 1 | <0.1 | <2 | 6.8 | 0.03 ... 0.09 |
| BZX55/C 10 | 10 | 5 | 9.4 ... 10.6 | <15 | <70 | 1 | <0.1 | <2 | 7.5 | 0.03 ... 0.1 |
| BZX55/C 11 | 11 | 5 | 10.4 ... 11.6 | <20 | <70 | 1 | <0.1 | <2 | 8.2 | 0.03 ... 0.11 |
| BZX55/C 12 | 12 | 5 | 11.4 ... 12.7 | <20 | <90 | 1 | <0.1 | <2 | 9.1 | 0.03 ... 0.11 |
| BZX55/C 13 | 13 | 5 | 12.4 ... 14.1 | <26 | <110 | 1 | <0.1 | <2 | 10 | 0.03 ... 0.11 |
| BZX55/C 15 | 15 | 5 | 13.8 ... 15.6 | <30 | <110 | 1 | <0.1 | <2 | 11 | 0.03 ... 0.11 |
| BZX55/C 16 | 16 | 5 | 15.3 ... 17.1 | <40 | <170 | 1 | <0.1 | <2 | 12 | 0.03 ... 0.11 |
| BZX55/C 18 | 18 | 5 | 16.8 ... 19.1 | <50 | <170 | 1 | <0.1 | <2 | 13 | 0.03 ... 0.11 |
| BZX55/C 20 | 20 | 5 | 18.8 ... 21.2 | <55 | <220 | 1 | <0.1 | <2 | 15 | 0.03 ... 0.11 |
| BZX55/C 22 | 22 | 5 | 20.8 ... 23.3 | <55 | <220 | 1 | <0.1 | <2 | 16 | 0.04 ... 0.12 |
| BZX55/C 24 | 24 | 5 | 22.8 ... 25.6 | <80 | <220 | 1 | <0.1 | <2 | 18 | 0.04 ... 0.12 |
| BZX55/C 27 | 27 | 5 | 25.1 ... 28.9 | <80 | <220 | 1 | <0.1 | <2 | 20 | 0.04 ... 0.12 |
| BZX55/C 30 | 30 | 5 | 28 ... 32 | <80 | <220 | 1 | <0.1 | <2 | 22 | 0.04 ... 0.12 |
| BZX55/C 33 | 33 | 5 | 31 ... 35 | <80 | <220 | 1 | <0.1 | <2 | 24 | 0.04 ... 0.12 |
| BZX55/C 36 | 36 | 5 | 34 ... 38 | <80 | <220 | 1 | <0.1 | <2 | 27 | 0.04 ... 0.12 |
| BZX55/C 39 | 39 | 2.5 | 37 ... 41 | <90 | <500 | 0.5 | <0.1 | <5 | 30 | 0.04 ... 0.12 |
| BZX55/C 43 | 43 | 2.5 | 40 ... 46 | <90 | <500 | 0.5 | <0.1 | <5 | 33 | 0.04 ... 0.12 |
| BZX55/C 47 | 47 | 2.5 | 44 ... 50 | <110 | <600 | 0.5 | <0.1 | <5 | 36 | 0.04 ... 0.12 |
| BZX55/C 51 | 51 | 2.5 | 48 ... 54 | <125 | <700 | 0.5 | <0.1 | <10 | 39 | 0.04 ... 0.12 |
| BZX55/C 56 | 56 | 2.5 | 52 ... 60 | <135 | <700 | 0.5 | <0.1 | <10 | 43 | 0.04 ... 0.12 |
| BZX55/C 62 | 62 | 2.5 | 58 ... 66 | <150 | <1000 | 0.5 | <0.1 | <10 | 47 | 0.04 ... 0.12 |
| BZX55/C 68 | 68 | 2.5 | 64 ... 72 | <200 | <1000 | 0.5 | <0.1 | <10 | 51 | 0.04 ... 0.12 |
| BZX55/C 75 | 75 | 2.5 | 70 ... 79 | <250 | <1000 | 0.5 | <0.1 | <10 | 56 | 0.04 ... 0.12 |
| BZX55/C 82 | 82 | 2.5 | 77 ... 87 | <300 | <1500 | 0.25 | <0.1 | <10 | 62 | 0.05 ... 0.12 |
| BZX55/C 91 | 91 | 1 | 85 ... 96 | <450 | <2000 | 0.1 | <0.1 | <10 | 68 | 0.05 ... 0.12 |
| BZX55/C 100 | 100 | 1 | 94 ... 106 | <450 | <5000 | 0.1 | <0.1 | <10 | 75 | 0.05 ... 0.12 |
| BZX55/C 110 | 110 | 1 | 104 ... 116 | <600 | <5000 | 0.1 | <0.1 | <10 | 82 | 0.05 ... 0.12 |
| BZX55/C 120 | 120 | 1 | 114 ... 127 | <800 | <5500 | 0.1 | <0.1 | <10 | 91 | 0.05 ... 0.12 |
| BZX55/C 130 | 130 | 1 | 124 ... 141 | <950 | <6000 | 0.1 | <0.1 | <10 | 100 | 0.05 ... 0.12 |
| BZX55/C 150 | 150 | 1 | 138 ... 156 | <1250 | <6500 | 0.1 | <0.1 | <10 | 110 | 0.05 ... 0.12 |
| BZX55/C 160 | 160 | 1 | 153 ... 171 | <1400 | <7000 | 0.1 | <0.1 | <10 | 120 | 0.05 ... 0.12 |
| BZX55/C 180 | 180 | 1 | 168 ... 191 | <1700 | <8500 | 0.1 | <0.1 | <10 | 130 | 0.05 ... 0.12 |
| BZX55/C 200 | 200 | 1 | 188 ... 212 | <2000 | <10000 | 0.1 | <0.1 | <10 | 150 | 0.05 ... 0.12 |

**Notes:**

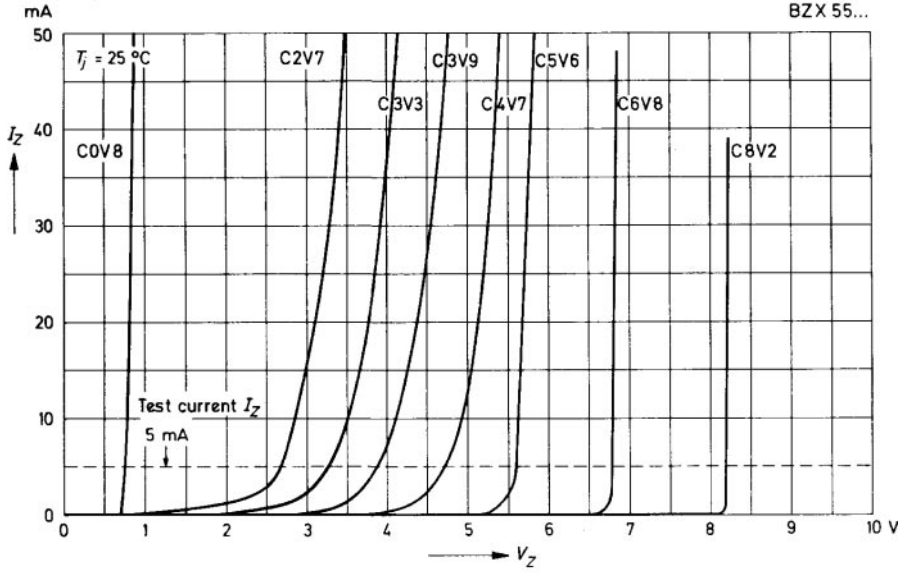
(1) Tested with pulses tp=20ms.

(2) Valid provided that leads are kept at ambient temperature at a distance of 8 mm from case.

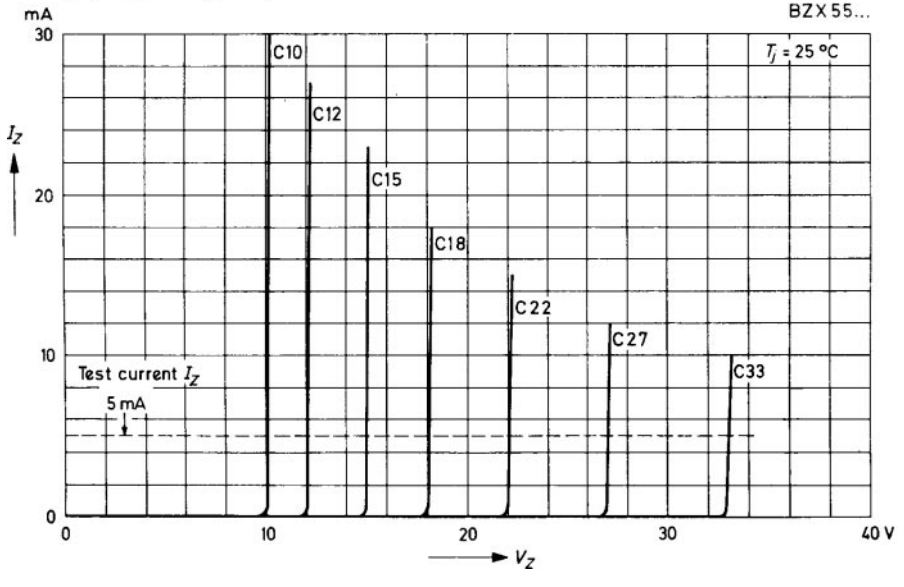
(3) The BZX55-C0V8 is a silicon diode with operation in forward direction. Hence, the index of all parameters should be “F” instead of “Z”. Connect the cathode lead to the negative pole.

## RATINGS AND CHARACTERISTIC CURVES

**Breakdown characteristics**
at $T_j$ = constant (pulsed)




**Breakdown characteristics**
at $T_j$ = constant (pulsed)



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